AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A disk array control apparatus comprising:

a first element constructed and arranged so that the first element calculates a cache hit ratio at a disk cache memory; and

a second element constructed and arranged so that the second element executes tasks as a first priority unless a number of the tasks executed as the first priority exceeds a first number, and executes one of the tasks as a second priority when the number of the tasks executed as the first priority exceeds the first number,

wherein the first priority is higher than the second priority, and

wherein said second element adjusts a number of activated ones of the tasks to be executed according to the calculated cache hit ratio.

2. (currently amended) [[A]] The disk array control apparatus as claimed in claim 1, wherein the comprising:

a first element constructed and arranged so that the first element calculates a cache hit ratio at a disk cache memory; and

~~a second element constructed and arranged so that the second element decreases a~~ number of <u>activated ones of the</u> tasks ~~to be executed~~ <u>decreases</u> when the calculated cache hit ratio is above a prescribed value and increases ~~the number of tasks to be executed~~ when the calculated cache hit ratio is below the prescribed value.

3. (currently amended) A disk array control apparatus comprising:

a first element constructed and arranged so that the first element calculates a cache hit ratio at a disk cache memory; and

a second element which executes <u>tasks as a first priority</u> <u>unless a number of the tasks executed as the first priority</u> <u>exceeds a first number, and executes one of the tasks as a second</u> <u>priority when the number of the tasks executed as the first</u> <u>priority exceeds the first number,</u>

<u>wherein the first priority is higher than the second</u> <u>priority, and</u>

<u>wherein said second element executes</u> only [[high]] <u>the first</u> priority tasks when the cache hit ratio is above a prescribed value and executes both the [[high]] <u>first</u> priority tasks and [[low]] <u>the second</u> priority tasks when the cache hit ratio is below the prescribed value.

4. (currently amended) A disk array control apparatus comprising:

a host I/O reception unit arranged so that the host I/O reception unit receives as an input an I/O process request from a host computer ~~and analyzes the I/O process~~, the I/O reception unit generating as an output the I/O process request;

~~a high priority I/O process execution unit constructed and arranged to allow execution of high priority tasks;~~

~~a low priority I/O process execution unit which executes constructed and arranged to allow execution of low priority tasks;~~

<u>an I/O process execution unit that executes tasks as a first priority unless a number of the tasks executed as the first priority exceeds a first number and executes one of the tasks as a second priority when the number of the tasks executed as the first priority exceeds the first number, wherein the first priority is higher than the second priority;</u>

a cache hit determination unit constructed and arranged to determine whether or not the I/O process request is causing a cache hit at a disk cache memory;

a cache hit ratio monitor unit constructed and arranged to calculate and output a cache hit ratio within some period of time by using a determination result of the cache hit determination unit; and

an execution task selection unit constructed and arranged to ~~allocate~~ assign each said I/O process request to either the <u>first or second priority tasks</u> ~~high priority I/O execution unit or the~~

4

~~low priority I/O process execution unit~~, the execution task selection unit <u>assigning said I/O process request to the first priority tasks</u> ~~activating only the high priority I/O process execution unit~~ when the cache hit ratio is not less than some prescribed value and <u>assigning said I/O process request to the second priority tasks</u> ~~activating both the high priority I/O process execution unit and the low priority I/O process execution unit~~ when the cache hit ratio is less than the prescribed value.

5. (currently amended) The disk array control apparatus as claimed in claim 4, further comprising:

a task priority change unit constructed and arranged to dynamically change the [[low]] <u>second</u> priority task to <u>one of</u> the [[high]] <u>first</u> priority [[task]] <u>tasks</u> after starting execution of the [[low]] <u>second</u> priority task, the task priority change unit changing the [[high]] <u>one of the first</u> priority [[task]] <u>tasks back</u> to the [[low]] <u>second</u> priority task at execution termination time.

6. (currently amended) A disk array control method comprising the steps of:

calculating a cache hit ratio at a disk cache memory; [[and]]

<u>executing tasks as a first priority unless a number of the tasks executed as the first priority exceeds a first number;</u>

<u>executing one of the tasks as a second priority when the number of the tasks executed as the first priority exceeds the</u>

first number, wherein the first priority is higher than the second priority; and

adjusting a number of activated ones of the tasks ~~to be executed~~ according to the calculated cache hit ratio.

7. (currently amended) [[A]] The disk array control method as claimed in claim 6, wherein the adjusting step comprises ~~comprising~~ the steps of:

~~calculating a cache hit ratio at a disk cache memory;~~

decreasing [[a]] the number of activated ones of the tasks ~~to be executed~~ when the cache hit ratio is above a prescribed value; and

increasing the number of activated ones of the tasks ~~to be executed~~ when the cache hit ratio is not above the prescribed value.

8. (currently amended) A disk array control method comprising the steps of:

calculating a cache hit ratio at a disk cache memory;

executing tasks as a first priority unless a number of the tasks executed as the first priority exceeds a first number;

executing one of the tasks as a second priority when the number of the tasks executed as the first priority exceeds the first number, wherein the first priority is higher than the second priority;

executing ~~only high~~ the first priority tasks when the cache hit ratio is above a prescribed value; and

executing both [[high]] the first priority tasks and [[low]] the second priority tasks when the cache hit ratio is not above a prescribed value.

9. (currently amended) A disk array control method comprising the steps of:

inputting an I/O process request from a host computer;

determining whether the I/O process request is causing a cache hit at a disk cache memory;

calculating a cache hit ratio within some period of time based on results of the determining step;

identifying the I/O process request as either a high priority task or a low priority task;

executing tasks as a first priority unless a number of the tasks executed as the first priority exceeds a first number;

executing one of the tasks as a second priority when the number of the tasks executed as the first priority exceeds the first number, wherein the first priority is higher than the second priority;

executing only high assigning the I/O process request to the first priority tasks when the cache hit ratio is not less than some prescribed value; and

executing both high priority tasks and low assigning the I/O process request to the second priority tasks when the cache hit ratio is less than the prescribed value.

10. (currently amended) The disk array control method as claimed in claim 9, further comprising the step of:

changing the [[low]] second priority task to one of the [[high]] first priority [[task]] tasks after starting execution of the [[low]] second priority task, and changing the [[high]] one of the first priority [[task]] tasks back to the [[low]] second priority task at execution termination time.

11. (new) A disk array apparatus comprising:

an I/O process execution unit which executes tasks as a first priority unless the number of said tasks executed as the first priority exceeds a first number, and executes one of the tasks as a second priority if the number of said tasks executed as the first priority exceeds the first number, wherein the first priority is higher than the second priority; and

a processor cache memory which holds data used by said I/O process execution unit.

12. (new) The disk array apparatus as claimed in claim 11, further comprising:

a priority change unit which changes, on execution of the second priority task, the priority of said one task from the second priority to the first priority, and changes, on completion of said one task, the priority of said one task from the first priority back to the second priority.

13. (new) The disk array apparatus as claimed in claim 11, further comprising:

a disk cache memory which is accessed by one of the first or second priority tasks; and

a plurality of disks which are accessed by said one of the first or second priority tasks when said disk cache memory does not have data for said one of the first or second priority tasks.

14. (new) A disk array control method used in an I/O process execution unit connected to a processor cache memory which holds data used by said I/O process execution unit, said method comprising the steps of:

executing tasks as a first priority unless a number of said tasks executed as the first priority exceeds a first number; and

executing one of the tasks as a second priority if the number of said tasks executed as the first priority exceeds the first number, wherein the first priority is higher than the second priority.

15. (new) The disk array control method as claimed in claim 14, further comprising the steps of:

changing, on execution of the second priority task, the priority of said second priority task from the second priority to the first priority; and

changing, on completion of said task, the priority of said task whose priority has been changed to the first priority back to the second priority.

16. (new) The disk array control method as claimed in claim 14, further comprising:

accessing, by the first priority tasks or the second priority task, a disk cache memory; and

accessing, by the first priority tasks or the second priority task, a plurality of disks when said disk cache memory does not have data for said first or second priority tasks.